



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

18W/
Box CD
Rom

APPLICANT(S): DEADWYLER et al.
SERIAL NO.: 10/541,687
FILED: July 1, 2005
FOR: Method of Treating Cognitive Decline Due to Sleep Deprivation
And Stress
GROUP ART UNIT: 1615
EXAMINER:

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 223313-1450

INFORMATION DISCLOSURE STATEMENT

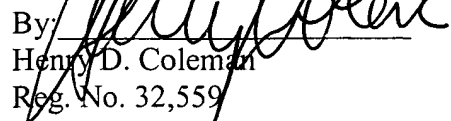
SIR:

Pursuant to the Duty to Disclose under 37 C.F.R. §1.56(a), applicant encloses herewith a copy of Form PTO-1449 listing documents relevant to the background of the invention described and claimed in the above-identified application. Inclusion of a reference on this list does not necessarily imply that that reference is prior art. For the convenience of the Examiner, copies of the listed documents are enclosed.

Applicant respectfully requests that the Examiner consider the enclosed references in determining the patentability of the claimed invention. Applicant also requests that the Examiner return a copy of enclosed Form PTO-1449 with initials or other marks indicating that the references have been so considered. If any fee is due, please charge/credit deposit account no. 04-0838.

Respectfully submitted,

Coleman Sudol Sapone, P.O.

By: 
Henry D. Coleman
Reg. No. 32,559
714 Colorado Avenue
Bridgeport, Connecticut 06605-1601
(203)366-3560

Dated: January 3, 2007



CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: "Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" on January 3, 2007.

Harold Hull

Harold Hull



INFORMATION DISCLOSURE CITATION IN AN APPLICATION	Att'y Ref: C21-074US	Serial No: 10/541,687
	Applicant: DEADWYLER et al.	
	Filing Date: 1 July 2005	Art Unit: 1615

United States Patent Documents						
Examiner Initial	Document Number	Date	Name	Class	Subclass	Filing Date

Foreign Patent Documents							
Examiner Initial	Publication Number	Publication Date	Country	Class	Subclass	Translation	
						Yes	No

Examiner Initial	Other Documents (by Title, Author Date, Pertinent Pages, Etc.)
	Angeli SJ, Murray EA, Mishkin M (1993) Hippocampectomized monkeys can remember one place but not two. <i>Neuropsychologia</i> 31: 1021-1030.
	Berkhout J, Adey WR, Campeau E (1969) Simian EEG activity related to problem solving during a simulated space flight. <i>Brain Res</i> 13:140-145
	Braun AR, Balkin TJ, Wesensten NJ, Carson RE, Varga M, Baldwin P, Selbie S, Belenky G, Herscovitch P (1997) Regional cerebral blood flow throughout the sleep-wake cycle: an ¹⁸ F PET study. <i>Brain</i> 120:1173-1197

Examiner:	Date Considered:
EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609; Draw line through citation if not in conformance and not considered; Include a copy of this form with next communication to the applicant.	

	Bueno OF, Lobo LL, Oliveira MG, Gugliano EB, Pomarico AC, Tufik S (1994) Dissociated paradoxical sleep deprivation effects on inhibitory avoidance and conditioned fear. <i>Physiol Behav</i> 56: 775-779
	Cho K (2001) Chronic 'jet lag' produces temporal lobe atrophy and spatial cognitive deficits. <i>Nature Neurosci</i> 4:567-567
	Cho YH, Beracochea D, Jaffard R (1993) Extended temporal gradient for the retrograde and anterograde amnesia produced by ibotenate entorhinal cortex lesions in mice. <i>J Neurosci</i> 13: 1759-1766
	David J, Grewal RS, Wagle GP (1975) Restricted sleep regime in rhesus monkeys: Differential effect of one night's sleep loss and selective REM deprivation. <i>Life Sci.</i> 16:1375-1386
	de Quervain DJ, Roozendaal B, McGaugh JL (1998) Stress and glucocorticoids impair retrieval of long-term spatial memory. <i>Nature</i> 394:787-790
	Deadwyler SA, Hampson RE (1997) The significance of neural ensemble codes during behavior and cognition. In: <i>Annual Review of Neuroscience</i> , Vol. 20 (Cowan WM, Shooter EM, Stevens CF, Thompson RF, eds), pp 217-244. Palo Alto, CA: Annual Reviews, Inc
	Drummond SPA, Brown GG, Stricker JL, Buxton RB, Wong EC, Gillin JC (1999) Sleep deprivation-induced reduction in cortical functional response to serial subtraction. <i>Neuroreport</i> 10:3745-3748
	Drummond SPA, Brown GG, Gillin JC, Stricker JL, Wong EC, Buxton RB (2000) Altered brain response to verbal learning following sleep deprivation. <i>Nature</i> 403:655-657
	Eichenbaum H, Otto T, Cohen NJ (1992) The hippocampus--what does it do? <i>Behav Neural Biol</i> 57: 2-36
	Eichenbaum H, Otto T, Cohen NJ (1994) Two functional components of the hippocampal memory system. <i>Behav Brain Sci</i> 17: 449-518
	Ennaceur A, Delacour J (1988) A new one-trial test for neurobiological studies of memory in rats. 1: Behavioral data. <i>Behav Brain Res</i> 31:47-59
	Gaudreau H, Morettini J, Lavoie HB, Carrier J (2001) Effects of a 25-h sleepdeprivation on daytime sleep in the middle-aged. <i>Neurobiology of Aging</i> 22: 461-468
	Graves L, Pack A, Abel T (2001) Sleep and memory: a molecular perspective. <i>TrendsNeurosci</i> 24:237-243
	Hampson RE, Deadwyler SA (1996) Ensemble codes involving hippocampal neurons are at risk during delayed performance tests. <i>Proc Nall Acad Sci U S A</i> 93: 13487-13493
	Hampson RE, Jarrard LE, Deadwyler SA (1999a) Effects of ibotenate hippocampal and extrahippocampal destruction on delayed-match and -nonmatch-to-sample behavior in rats. <i>Journal of Neuroscience</i> 19: 1492-1507

Examiner:

Date Considered:

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609; Draw line through citation if not in conformance and not considered; Include a copy of this form with next communication to the applicant.

	Hampson RE, Rogers G, Lynch G, Deadwyler SA (1998a) Facilitative effects of the ampakine CX516 on short-term memory in rats: Correlations with hippocampal ensemble activity. <i>J Neurosci</i> 18: 2748-2763
	Hampson RE, Rogers G, Lynch G, Deadwyler SA (1998b) Facilitative effects of the ampakine CX516 on short-term memory in rats: Enhancement of delayednonmatch-to-sample performance. <i>J Neurosci</i> 18: 2740-2747
	Hampson RE, Simeral JD, Deadwyler SA (1999b) Distribution of Spatial and Nonspatial Information in Dorsal Hippocampus. <i>Nature</i> 402: 610-614
	Huber R, Deboer T, Tobler I (2000) Topography of EEG dynamics after sleep deprivation in mice. <i>J Neurophysiol</i> 84: 1888-1893
	Hull J, Harsh J (2001) P300 and sleep-related positive waveforms (P220, P450, and P900) have different determinants. <i>Journal of Sleep Research</i> 10: 9-17
	Jeong J, Kim DJ, Kim SY, Chae JH, Go HJ, Kim KS (2001) Effect of total sleep deprivation on the dimensional complexity of the waking EEG. <i>Sleep</i> 24: 197-202
	Johnson LC (1982) Sleep deprivation and performance. In: Webb WB ed. <i>Biological rhythms, sleep, and performance</i> . Chichester, U.K.: Wiley 111-141
	Kessler M, Arai A, Vanderklish P, Lynch G (1991) Failure to detect changes in AMPA receptor binding after long-term potentiation. <i>Brain Res</i> 560:337-341
	Kim JJ, Fanselow MS (1992) Modality-specific retrograde amnesia of fear. <i>Science</i> 256: 675-677
	Koob GF (2000) Stimulants: basic mechanisms and pharmacology. In: <i>Principles and practice of sleep medicine</i> (Kryger MH, Roth T, Dement WC, eds), pp 419-428: Philadelphia: Saunders
	Koslowsky M, Babkoff H (1992) Meta-analysis of the relationship between total sleep deprivation and performance. <i>Chronobiol Int</i> 9:132-136
	Krueger CP (1998) Sustained work, fatigue, sleep loss and performance: a review of the issues. <i>Work Stress</i> 3:129-141
	Landfield PW, Eldridge JC (1994) Evolving aspects of the glucocorticoid hypothesis of brain aging: hormonal modulation of neuronal calcium homeostasis. <i>Neurobiol Aging</i> 15:579-588
	Lathe R (2001) Hormones and the hippocampus. <i>J Endo</i> 169:205-231
	Leonard BW, Amaral DG, Squire LR, Zola-Morgan S (1995) Transient memory impairment in monkeys with bilateral lesions of the entorhinal cortex. <i>J Neurosci</i> 15: 5637-5659
	Lupien SJ, de Leon M, de Santi S, Convit A, Tarshish C, Nair NPV, McEwen BS, Hauger RL, Meaney MJ (1998) Cortisol levels during human aging predict hippocampal atrophy and memory deficits. <i>Nat Neurosci</i> 1:69-73

Examiner:

Date Considered:

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609; Draw line through citation if not in conformance and not considered; Include a copy of this form with next communication to the applicant.

	Mendelson WB, Guthrie RD, Frederick G, Wyatt RJ (1974) The flower pot technique of rapid eye movement (REM) sleep deprivation. <i>Physiol Behav</i> 2:553-556
	Moussard C, Alber D, Mozer JL, Henry JC (1994) Effect of chronic REM sleep deprivation on pituitary, hypothalamus and hippocampus PGE2 and PGD2 biosynthesis in the mouse. <i>Prostaglandins Leukotrienes & Essential Fatty Acids</i> 51: 369-372
	Muller D, Joly M, Lynch G. (1988) Contributions of quisqualate and NMDA receptors to the induction and expression of LTP. <i>Science</i> . Dec 23;242(4886):1694-7
	Ocampo-Garces A, Molina E, Rodriguez A, Vivaldi EA (2000) Homeostasis of REM sleep after total and selective sleep deprivation in the rat. <i>J Neurophysiol</i> 84:2699-2702
	Otto T, Schottler F, Staubli U, Eichenbaum H, Lynch G (1991) Hippocampus and olfactory discrimination learning: effects of entorhinal cortex lesions on olfactory learning and memory in a successive-cue, go-no-go task. <i>Behav Neurosci</i> 105: 111-119
	Pavlidis C, Winson J (1989) Influences of hippocampal place cell firing in the awake state on the activity of these cells during subsequent sleep episodes. <i>J Neurosci</i> 9: 2907-2918
	Pilcher JJ, Huffcutt AI (1996) Effects of sleep deprivation on performance: a meta-analysis. <i>Sleep</i> 19:318-326
	Porkka-Heiskanen T, Smith SE, Taira T, Urban JH, Levine JE, Turek FW, Stenberg D (1995) Noradrenergic activity in rat brain during rapid eye movement sleep deprivation and rebound sleep. <i>American Journal of Physiology</i> 268: R1456-R1463
	Portas CM, Rees G, Howseman AM, Josephs O, Turner R, Frith CD (1998) A specific role for the thalamus in mediating the interaction of attention and arousal in humans. <i>J Neurosci</i> 18:8979-8989
	Porter NM, Landfield PW (1998) Stress hormones and brain aging: adding injury to insult? <i>Nat Neurosci</i> 1:3-4
	Porter NM, Herman JP, Landfield PW (2000) Mechanisms of glucocorticoid actions in stress and brain aging. <i>In Handbook of Physiology, Coping with the Environment: Neural and Endocrine Mechanisms</i> , B McEwen ed, Oxford University Press, 7:293-309
	Reite M, Pegram GV, Todd C (1970) Computer analysis of the EEG during sleep deprivation in the monkey. <i>Electroencephalography & Clinical Neurophysiology</i> 28: 99 -
	Sapolsky RM, Uno H, Rebert CS, Finch CE (1990) Hippocampal damage associated with prolonged glucocorticoid exposure in primates. <i>J Neurosci</i> 10:2897-2902
	Schwierin B, Borbely AA, Tobler I (1999) Prolonged effects of 24-h total sleep deprivation on sleep and sleep EEG in the rat. <i>Neurosci Lett</i> 261: 61-64

Examiner:

Date Considered:

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609; Draw line through citation if not in conformance and not considered; Include a copy of this form with next communication to the applicant.

	Scoville WB, Milner B (1957) Loss of recent memory after bilateral hippocampal lesions. J Neurol Neurosurg Psych 20: 11-12
	Smith C (1995) Sleep states and memory processes. Behavioural Brain Research 69:137-145
	Smith C, Rose GM (1996) Evidence for a paradoxical sleep window for place learning in the Morris water maze. Physiol Behav 59: 93-97
	Spiegel K, Leproult R, Van Cauter E (1999) Impact of sleep debt on metabolic and endocrine functions. Lancet 354:1435-1439
	Squire LR, Cave CB (1991) The hippocampus, memory, and space. Hippocampus 1: 269-271
	Squire LR, Zola-Morgan SM, Chen KS (1988) Human amnesia and animal models of amnesia: Performance of amnesic patients on tests designed for the monkey. Behav Neurosci 102:210-221
	Starkman MN, Gebarski SS, Berent S, Schteingart DE (1992) Hippocampal formation volume, memory dysfunction, and cortisol levels in patients with Cushing's syndrome. Biol Psychiatry 32:756-765
	Staubli U, Ambros-Ingerson J, Lynch G (1992) Receptor changes and LTP: an analysis using aniracetam, a drug that reversibly modifies glutamate (AMPA) receptors. Hippocampus 2:49-57.
	Suchecki D, Lobo LL, Hipolide DC, Tufik S (1998) Increased ACTH and corticosterone secretion induced by different methods of paradoxical sleep deprivation. J Sleep Res 7:276-281
	Tang CM, Shi QY, Katchman A, Lynch G. Science. (1991) Oct 11;254(5029):288-90
	Thomas ML, Sing HC, Belenky G, Holcomb HH, Dannals RF, Wagner, Jr. HN, Peller P, Mayberg HS, Wright JE, Thorne DR, Popp KA, Redmond DR, Zurer J, Balwinski S (1993) Cerebral glucose utilization during task performance and prolonged sleep loss. J Cerebr Blood Flow Metabol 13:531
	Volkow ND, Wang GJ, Fowler JS, Logan J, Gatley SJ, Wong C, Hitemann R, Pappas NR (1999) Reinforcing effects of psycho stimulants in humans are associated with increases in brain dopamine and occupancy of D2 receptors. J Pharmacol Exp Ther. 291:409-415
	Xiao P, Staubli U, Kessler M, Lynch G. Selective effects of aniracetam across receptor types and forms of synaptic facilitation in hippocampus. Hippocampus. 1991 Oct; 1 (4):373-80
	Wilson MA, McNaughton BL (1994) Reactivation of hippocampal ensemble memories during sleep. Science 265: 676-679
	Wisor JP, Nishino S, Sora I, Uhl GH, Mignot E, Edgar DM (2001) Dopaminergic role in

Examiner:

Date Considered:

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609; Draw line through citation if not in conformance and not considered; Include a copy of this form with next communication to the applicant.

	stimulant-induced wakefulness. J Neurosci 21:1787-1794
	Wu JC, Gillin JC, Buchsbaum MS, Hershey T, Hazlett E, Sicotte N, Bunney, Jr. WE (1991) The effect of sleep deprivation on cerebral glucose metabolic rate in normal humans assessed with positron emission tomography. Sleep 14:155-162
	Youngblood BD, Smagin GN, Elkins PD, Ryan DH, Harris RB (1999) The effects of paradoxical sleep deprivation and valine on spatial learning and brain 5-HT metabolism. Physiol Behav 67: 643-649
	Zola-Morgan S, Squire LR, Amaral DG (1986) Human amnesia and the medial temporal region: enduring memory impairment following a bilateral lesion limited to field CA1 of the hippocampus. Journal of Neuroscience 6: 2950-2967

Examiner:

Date Considered:

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609; Draw line through citation if not in conformance and not considered; Include a copy of this form with next communication to the applicant.